Meet the RAB

Joan Saunders

RAB member Joan Saunders and her husband Sandy

"Everyone should have a safe environment where they can lead healthy lives," says former Yuba County Supervisor Joan Saunders. When she joined the Beale Restoration Advisory Board (RAB) in 1994, Saunders knew chemicals used at Beale AFB had caused areas of contamination; she wanted to know what was being done to clean them up.

Now, after 11 years as a RAB member, Saunders would like to see new participants on the RAB and at meetings, "particularly from local government and people who represent new growth in the area," says Saunders. "Our community has grown a great deal in the past ten years. Beale AFB is important to the community, and vice versa," she explains.

"People approach me about their work history at Beale. I take that information to the RAB and ask questions," says Saunders. She didn't have any special training for her role on the RAB–her career has been in advertising sales. She wants people to know their involvement is valuable regardless of their expertise or background.

Saunders is a three-time cancer survivor, who spends most of her time in community service activities. Otherwise you'll find her in the garden with her husband and five miniature dachshunds. Within minutes of meeting Saunders, you will know what motivates her–a deep and genuine interest in helping people.

The Beale AFB Information Repository
is located at the
Yuba County Library
303 Second Street, Marysville
Call (530) 749-7380 for hours

The information repository provides the public access to documents related to the investigation and cleanup of environmental concerns.

UPCOMING EVENTS

Restoration Advisory Board Meeting/Open to Public

Thursday, November 17, 2005
6-8 p.m.

The meeting will be held at
One-Stop Center for Business and Workforce Development, 1114 Yuba Street, Marysville

The Restoration Advisory Board (RAB) is a forum through which our local communities, the Air Force, and the regulatory agencies work together in an atmosphere that encourages discussion and exchange of information on the environmental cleanup of Beale AFB. The public is encouraged to attend RAB meetings.

To apply for RAB membership, please contact Mike O'Brien, Chief of Environmental Restoration at Beale AFB, by fax at (530) 634-2845 or mail at 9CES/CEVR 6601 B Street, Beale AFB, CA 95903. The commitment includes attending five RAB meetings a year. RAB members are also encouraged to tour restoration sites on the base twice each year.

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BEALE AFB

ENVIRONMENTAL RESTORATION
BEALE AIR FORCE BASE

Environmental Cleanup Program

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A QUARTERLY NEWSLETTER REPORTING ON CLEANUP AT BEALE AFB

For Beale AFB, "optimizing" key programs is a way of life

As Beale AFB brings more cleanup systems on line, the percentage of the program budget used to operate and monitor systems increases, reducing the amount of money available for new cleanup actions. The Beale Environmental Restoration Program (ERP) team and State regulatory agencies have found ways to overcome this paradox. Using a process called Remedial Process Optimization, the team found ways to reduce groundwater monitoring costs by about $78,000 each year. For a cleanup effort expected to take decades, these savings are significant.

Terry Escarda, California Department of Toxic Substances Control (DTSC), explains the challenge and the benefits best, "Optimization is about far more than cost savings. It's about improving the efficiency of the program, which leads to faster cleanup and less risk of exposure. By creating efficient monitoring programs, for example, more of the relatively fixed budget can be used to beef up other areas of the program. It's a process of constant process improvement that allows the program to focus its resources meaningfully."

Using hand-held computers (left) during sample collection and fitting extraction wells with radio transmitters for remote monitoring (above) are just two of the actions Beale AFB has taken to optimize its Groundwater Monitoring Program.

The use of hand-held computers during sample collection replaces significant amounts of paper and associated man hours

Long-term groundwater cleanup efforts can be expensive, so optimization initiatives usually target this component in one form or another. Beale AFB has been monitoring groundwater conditions for 15 years. In addition to upgrading data collection tools (see photos), the ERP team and State agencies took a close look at the

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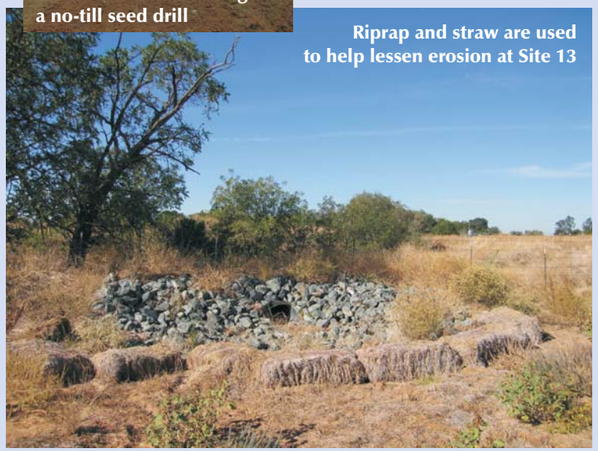
The area along A Street illustrates an established native grassland restoration area that continues to reseed itself

Seed is distributed using a no-till seed drill



Riprap and straw are used to help lessen erosion at Site 13

Rains test cap at former landfill

In 2004, the Air Force constructed a soil cap atop former Landfill 1 (Site 13) and planted native grass seed. According to Beale's Lead Biologist, Kirsten Christopherson, the eight-acre site was seeded with purple needlegrass (*Nassella pulchra*), a drought-tolerant California native grass that reseeds itself. "Much of the Site 13 cap is now covered with native grasses, so the revegetation project did very well during the first growing season," explained Christopherson. "The areas that are sparsely vegetated by the native grasses were too compacted, I believe, for the plants to establish, so we'll scarify the soil and broadcast additional seed at those areas," she added. The cap prevents rainwater and burrowing animals from contacting landfill debris.

The 2005 rainy season demonstrated the cap's ability to direct runoff away from the landfill. Mike Wray, the CH2M HILL Project Manager overseeing the project, has closely monitored rain events at the cap over the year, watching for signs of erosion and responding as needed. Recently, Wray's team has spread straw over the cap as a precaution to help lessen erosion during the winter and protect the grass that is still establishing itself. In addition, Wray's team spends several hours a month pulling non-native star thistle that threatens many revegetation efforts.

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For Beale AFB, "optimizing" key programs is a way of life

amount and quality of historical groundwater data collected to date, and found they could reduce the number of samples by half and still be protective of human health.

Beale's Groundwater Monitoring Program budget of about $2 million a year has remained stable over the past few years, even with the addition of new wells. The stability is due in part to ongoing optimization efforts.

"Good stewardship includes protecting human health and the environment, achieving cleanup goals, and being responsible with taxpayer dollars."
Mike O'Brien, Chief, Beale AFB Environmental Restoration Program

Treating contaminants in groundwater is said to be up to 40 times more expensive than treating contaminants in soil, because it is almost always harder to reach and remove contamination once it reaches groundwater. Optimization initiatives currently under review at Site 39 (Building 2145) are aimed at soil vapor extraction (SVE) systems that remove contaminants before they reach groundwater.

Studies help find ways to clean up groundwater in place

What do biotraps and permanganate have in common? These exotic-sounding terms are the subjects of studies that will help select cleanup remedies for two sites at Beale AFB. Officials are looking for ways to clean up groundwater while it is in the ground, instead of pumping the water to the surface for treatment.

"Depending on the site, remediating groundwater in place is far more cost effective than using pump-and-treat technology," explains Mike O'Brien, Chief of Beale's Environmental Restoration Program.

Biotraps are sampling tubes that contain a substance that attracts naturally occurring microbes. The biotraps installed at the Fire Protection Training Area (Site 3) will remain in the ground for two months before being removed and sent to a laboratory. The lab will identify the DNA of the microbes. This information, plus water quality data collected from the site, will tell scientists if the site conditions are self-cleaning or if the microbes need a boost to break down contaminants.

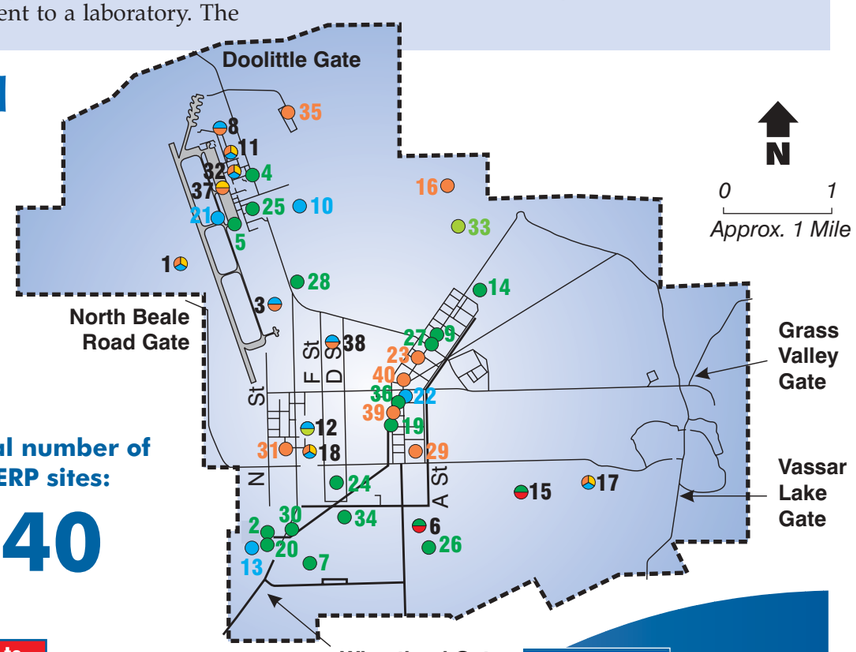
The "boost" might be as simple as injecting air into the ground to create conditions in which the contaminant-eating microbes thrive. At Site 32 near the flightline, a study is injecting potassium permanganate. Groundwater beneath the flightline contains petroleum products and cleaning solvents. The small-scale study is designed to see how well the substance remediates the contaminants at the site. Because Site 32 is an active flightline, the cleanup technologies ultimately used at the site must not interfere with the vital military missions at Beale AFB.

Environmental Restoration Program Status

A site may appear in more than one box. This happens if environmental elements are at different stages. For example, at one site soil may be cleaned up, but groundwater may require further investigation.

Total number of ERP sites:

40



Preliminary Assessment (0)/ Site Inspection (0)

Unless a previously unidentified site is discovered, the Beale AFB ERP has completed the PA/SI phase for *all* sites.

Moved to Compliance Program (2)
Sites 6 & 15 (both landfills)

Remedial Investigation/ Feasibility Study (16)
Sites 1, 3, 8, 11, 16, 17, 18, 23, 29, 31, 32, 35, 37, 38, 39, 40

Remedial Design (6)
Sites 1, 11, 17, 18, 32, 37

Remedial Action (13)
Sites 1, 3, 8, 10, 11, 12, 13, 17, 18, 21, 22, 32, 38

Pending Closure (2)
Sites 12, 33

Sites Closed (18)
Sites 2, 4, 5, 6, 7, 9, 14, 15, 19, 20, 24, 25, 26, 27, 28, 30, 34, 36